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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Raymond J. Mueller

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EXAMINER

RETTA, YEHDEGA

ART UNIT

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3622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/993,228	Applicant(s) MUELLER ET AL.	
	Examiner Yehdega Retta	Art Unit 3622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6,7,9 and 11-33 is/are pending in the application.
- 4a) Of the above claim(s) 34 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 6, 7, 9, 11-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, claims 1, 6, 7, 9 and 11-33 in the reply filed on October 13, 2009 is acknowledged. Claims 34 and 35 are withdrawn from consideration as being drawn to a nonelected group. Applicant is correct that claim 26 was inadvertently excluded from Group I. Claim 26 now belongs to Group I.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1, 9 and 11-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Based on Supreme Court precedent, a method/process claim must (1) be tied to another statutory class of invention (such as a particular apparatus) (see at least *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing (see at least *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972)). A method/process claim that fails to meet one of the above requirements is not in compliance with the statutory requirements of 35 U.S.C. 101 for patent eligible subject matter. Here the claims fails to meet the above requirements because the steps are neither tied to another statutory class of invention (such as a particular apparatus) nor physically transform underlying subject matter (such as an article or materials) to a different state or thing.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 7, 11-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bieganski (US 6,412,012) in view of Gzybowski (US 2002/0062173 A1)

Regarding claims 1, 7, 18 and 26, Bieganski teaches receiving an order information; determining an offer for the customer based on at least one of genetic program and genetic algorithm and outputting an indication of the determined offer (see col. 7 line 45 to col. 8 line 14). Bieganski does not teach wherein the offer is based on a round-up amount. Gzybowski teaches receiving an order information, determining a round-up amount and providing an offer (offer to provide the difference to charities or receive the change) based on the round-up amount; and outputting an indication of the determined offer (see fig. 1&2, [0059]-[0072], [0077]-[0079]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Bieganski offer of product and Gzybowski's round-up amount and provide the offer of Bieganski based on the round-up amount of Gzybowski in order to provide an option for the user to purchase the recommended product if the customer does not want to donate the changes to charities. When the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their

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respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 6, Bieganski teaches a processor, a storage device coupled to the processor and storing instructions adapted to be executed by the processor to receive order information; determining an offer for the customer based on at least one of genetic program and genetic algorithm and outputting an indication of the determined offer (see col. 7 line 45 to col. 8 line 14). Bieganski does not teach wherein the offer is based on a round-up amount. Gzybowski also teaches a processor, a storage device coupled to the processor and storing instructions adapted to be executed by the processor to receive order information, determining a round-up amount and providing an offer (offer to provide the difference to charities or receive the change) based on the round-up amount; and outputting an indication of the determined offer (see fig. 1&2, [0059]-[0072], [0077]-[0079]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Bieganski offer of product and Gzybowski's round-up amount and provide the offer of Bieganski based on the round-up amount of Gzybowski in order to provide an option for the user to purchase the recommended product if the customer does not want to donate the changes to charities. When the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claims 9, 11, Bieganski teaches receiving an order information; determining an offer for the customer based on at least one of genetic program and genetic algorithm and outputting an indication of the determined offer (see col. 7 line 45 to col. 8 line 14). Bieganski

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does not teach wherein the offer is based on a round-up amount. Gzybowski teaches receiving an order information, determine a transaction total based on the order; calculating a difference between the transaction total and the next highest dollar amount; determining a round-up amount and providing an offer (offer to provide the difference to charities or receive the change) based on the round-up amount; and outputting an indication of the determined offer; determining the offer based on the amount of sales tax (see fig. 1&2, [0059]-[0072], [0077]-[0079]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Bieganski offer of product and Gzybowski's round-up amount and provide the offer of Bieganski based on the round-up amount of Gzybowski in order to provide an option for the user to purchase the recommended product if the customer does not want to donate the changes to charities.

Regarding claim 12, both Bieganski and Gzybowski teach displaying the offer on a display (see Bieganski col. 19 lines 44 to col. 20 line 19 and Gzybowski, [0068]-[0070])

Regarding claims 13-15, Bieganski teaches determining a transaction total based on order transaction; receiving an indication of acceptance of the offer; generating new order information representing at least one additional product being added to the order information; determining a new transaction total based on the new order information and outputting an indication of the new transaction total (see col. 19 line 13 to col. 20 line 3).

Regarding claims 14-23, Bieganski teach determining an offer based on historical offer criteria or generating a plurality of genetic programs and each genetic program is given an

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opportunity to generate at least one outcome; selecting the program at random; generating a set of rules based on historical information and creating new rules based on feedback; determining score etc (see col. 7 line 10 to col. 8 line 38, col. 9 line 1 to col. 10 line 67). Generating new genetic program using crossover, replication or mutation process are inherent feature of Genetic programming.

Regarding claims 24 Bieganski teaches displaying the offer to the customer via a display at a retail store; wherein the offer is for at least one food item (see col. 7 line 65 to col. 8 line 14), see also Gzybowski [0043], [0077])

Regarding claim 25, Bieganski does not explicitly teach the store comprising of quick service restaurant. However official notice is taken that is old and well know in the art of fast food (quick service restaurant) to offer an additional item to a customer based on his/her purchased items, therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an offer using genetic programming as in Bieganski in a quick service restaurant in order to optimize the outcome.

Claims 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bieganski et al. (US 6,412,012) in view of Ross (US 6, 477,571).

Regarding claims 27 and 33, Bieganski teaches receiving order information based on an order of a customer; and generating an offer for the customer and outputting the generated offer. Bieganski teaches recommendation provided using genetic algorithm, collaborative filtering, neural networks or other statistical models (see abstract, col. 3 lines 19-58, col. 7 lines 45-64, col. 10 lines 17-49). Bieganski does not teach the genetic program or algorithm includes

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translating the order information to a bit stream; generating the offer based on genetic program or algorithm comprising matching the bit stream to one or more classifiers of a population of classifiers; Ross teaches translating order information (transaction) to bit stream (alphanumeric string) and matching the bit stream to a classifiers. Ross teaches a service request string representations are passed to a transaction analyzer which first matches each service request to a service request identifier in a service request table that is used to store identifications of all service requests. Ross teaches each service request is represented by its request identifier obtained from the service request table 58, thereby providing a more compact and simpler service request representation (see col. 1 line 38 to col. 4 line 44, col. 6 lines 38-59). Ross also teaches the bit stream and classifier is a uniform length (see col. 4 lines 10-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bieganski recommendation system using Ross's translation system in order to express the transactions in simple and precise format and also to predict additional transaction occurrence, as taught in Ross.

Claims 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bieganski et al. (US 6,412,012) in view of Ross further in view of "Generalization in XCS", Stewart W. Wilson, submitted to ICML '96 Workshop on Evolutionary Computing and Machine Learning (herein after Wilson).

Regarding claim 28-32 Bieganski/Ross does not teach determining that a minimum number of classifiers of the population of classifiers has not been matched; generating one or more additional classifiers; and adding the additional classifiers to the population of classifiers, in response to determining that the minimum number of classifiers has not been matched; said

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additional classifiers are generated through at least one of crossovers of existing classifiers or mutations of existing classifiers; determining whether to perform an exploit operation or an explore operation in selecting a classifier to make an offer; in which in response to determining that an explore operation is to be performed, the given classifier is selected at random, it is taught in Wilson (see par. 3.1, 5.0, 5.1). Wilson teaches classifier system in which fitness is based on prediction accuracy which increases the proportion of the population that consists of accurate classifiers at the same time reducing the total number of classifiers. Wilson also teaches in the exploit mode the system seeks the action for which the predicted payoff is highest (best classifier). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Wilson classifier system in Ross's classifier to derive accuracy from a prediction of error and fitness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (571) 272-6723. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (571) 272-6724. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YR

/Yehdega Retta/

Primary Examiner, Art Unit 3622